

REMARKS/ARGUMENTS

This paper is responsive to the final Office Action mailed on December 19, 2006, in the above-captioned application. In response to the Office Action, which has been carefully reviewed, claims 1-15 have been amended, claims 16-31 have been canceled without prejudice or disclaimer, and claims 32 and 33 have been added. No new matter has been added.

Rejection under 35 U.S.C. § 112

Claim 8 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. However, claim 8 has been amended, *inter alia*, to include proper antecedent basis, and therefore withdrawal of this rejection is respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 1-11, 13, 16-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over LASH (2001/0020229) in view of Sexton et al. U.S. Patent No. 5,752,236.

Lash describes a system and method for predicting the likelihood that a patient having one disease or condition will acquire high medical service utilization characteristics. A probability equation is applied to patient claim data to calculate a probability value indicative of the likelihood that a patient will have a high utilization of healthcare resources within a given period of time. See Lash Abstract.

The Lash reference describes two methods, a method for developing a probability equation using healthcare claim data for a homogeneous grouping of patients, i.e., patients all having a certain diagnosis or disease, and a method for using the probability equation to calculate a probability value for each patient in a similarly homogeneous group of patients. [Lash at ¶ 0046] The probability equations produced by the Lash method are “based on a particular disease diagnosis.” [Lash at ¶ 0047]

To develop its probability equation of each particular disease diagnosis, the Lash method identifies high relevance claim variables from a preselected subset of the total possible claim

variables for a homogeneous grouping of patients. The high relevance variables are selected by the process of logistical regression analysis modeling. In addition, weighting coefficiently are also determined using logical regression modeling. An assortment of possible claim variables is described in Lash at ¶ 0049, and the high relevance variables identified for asthmatic patients are described in ¶¶ 0050-52. The Lash method produces a risk score for each patient in the homogeneous group. However, Lash does not describe or suggest calculation of a risk score that enables comparison of multiple patients will multiple diseases or conditions.

The Sexton reference describes a life insurance method and system that address insurance plans having two separate but related insurance contracts on the same insured party. Sexton discusses a life insurance product database in which information given in questionnaire responses by prospective customers is stored, including gender, age, risk (preferred, smoker, or non-smoker), and desired premium and cash values for life insurance policies. See Sexton at Col. 18, lines 60-64.

Claims 1-15

With reference to amended claim 1, the applied combination of Lash and Sexton does not teach or suggest the claimed invention.

In particular, neither Lash nor Sexton teaches or suggests a method for targeting high-risk members in a healthcare plan in which a plurality of members having healthcare data representing a plurality of disease categories are assessed to target members for proactive care. Amended claim 1 recites, *inter alia*, storing a predicted future healthcare utilization based upon stored healthcare data representing a plurality of disease categories for each member in a health plan. In contrast, Lash teaches the calculation of a predicted future healthcare utilization for each of a plurality of members of a homogeneous group of patients all having the same condition or disease, such as asthma or diabetes. Moreover, the method in Lash is expressly limited to such a homogeneous group of patients because the claim data analyzed in Lash must represent a single diagnosis or disease to have any predictive value (see Lash at ¶ 0046). Thus, Lash does not teach or suggest the invention described in amended claim 1.

Also, Sexton is not analogous art in that it does not relate in any way to analysis or processing healthcare claim data, and, given the life insurance context, does not teach prediction, evaluation of risk, or any other analysis of members of a health plan using stored healthcare data. Furthermore, it is the applicants' position that one of skill in the art would not look to a reference concerning management of multiple life insurance policies to modify the homogeneous healthcare predictive modeling method described in Lash. Also, even assuming motivation to make the asserted combination of Lash and Sexton, Sexton also does not teach or suggest storing a predicted future healthcare utilization based upon healthcare data associated with a plurality of diseases for each member of a health plan as recited in amended claim 1.

Additionally, the combination of Lash and Sexton does not teach or suggest searching claim data associated with each high-risk member for one or more intervention factors corresponding to member attributes amenable for intervention. The Examiner asserts that the high relevance claim variables in Lash read on the claimed intervention factors. See Office Action of December 19, 2006, at page 4. However, the high relevance claim variables in Lash are selected using regression analysis based upon their predictive value which is their ability to predict whether the patient will be a future high user of medical services. See Lash at ¶ 0038. The high relevance claim variables multiplied by their predictive power (weighting coefficients) are used in a probability equation to generate a value for each patient representing the likelihood of an in-patient admission for each patient. *Id.* Notably, the high relevance claim variables differ for each group of homogeneous patients, as the variables and resulting probability equations are based upon a particular disease or diagnosis. See Lash at ¶ 0047.

In contrast, the intervention factors recited in amended claim 1 are not defined based upon their ability to predict future healthcare utilization by a member, but are instead defined as attributes amendable for intervention, such as areas that are likely to result in a reduction of healthcare costs or improve the overall health and wellbeing of the member. See, e.g., Specification at page 8. Thus, the claimed intervention factors are different from the high relevance claim variables described in Lash. Sexton also does not teach or suggest the claimed intervention factors.

Furthermore, the asserted combination of Lash and Sexton does not teach or suggest selecting an intervention group of members having a selected number of type of intervention factors and outputting the intervention factors and claim data associated with each member in the intervention group as recited in amended claim 1. As discussed above, Lash does not teach or suggest the recited intervention factors, which are the basis for creating the intervention group. Sexton also contains no such teachings.

For the reasons discussed above, the combination of Lash and Sexton does not teach all of the features recited in amended claim 1. Therefore, the Examiner has not established a *prima facie* case of obviousness required under 35 U.S.C. § 103 and as described, for example, in M.P.E.P. § 2143 (requiring, *inter alia*, that the combination of references teach all limitations recited in the claim). Moreover, citation of a general desire to lower health-care costs ([Lash at ¶ 0006] by the Examiner in the Office Action of May 18, 2006, and page 4, and referred to in the Office Action of December 19, 2006, at page 4, does not explain with any reasonable specificity any motivation for one skilled in the art to modify the Lash method to incorporate the use of life insurance data stored for prospective life insurance applicants based upon their answers to questionnaires as described generally in Sexton and specifically at col. 18, lines 60-64, the portion of Sexton cited by the Examiner to achieve the invention recited in amended claim 1. Therefore, amended claim 1 is believed to be patentable over the applied combination of references.

Claims 2-11, and 13-15 depend from amended claim 1 and are believed to be patentable for at least those reasons set forth above with reference to amended claim 1.

Notably, in addition to the features of amended claim 1, amended claim 7 also recites calculation of a future cost for each member of the intervention group, a feature that is not taught or suggested by Lash or Sexton.

Also, with reference to amended claims 8 and 9, neither Lash nor Sexton teaches the calculation of a relative risk or relative risk ranking for each member based upon the predicted healthcare utilization for each member as recited in amended claims 8-9.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lash (2001/0020229) in view of Sexton et al. U.S. Patent No. 5,752,236, as applied to claim 1 and further in view of Lutgen et al. (US 2003/0167189A1). While Lutgen describes the use of groupings of claim data by medical episode, it does not teach or suggest the features described in amended claim 1. Therefore, given the deficiencies of the Lash and Sexton references discussed in detail above, this claim, which depends from amended claim 1, is believed to be patentable over the asserted combination of references.

Claims 14-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lash (2001/0020229) in view of Sexton et al. U.S. Patent No. 5,752,236, as applied to claim 1, and further in view of Lockwood et al. U.S. Patent No. 5,845,254. Lockwood describes a system and method for monitoring the performance of a group of healthcare providers in which a cost efficiency performance level is determined for each provider from a plurality of severity-adjusted sickness episode data records. See Lockwood at col. 5, lines 28-47. However, Lockwood does not teach or suggest the features of the method described in amended claim 1. Therefore, claims 14-15, which depend from amended claim 1, are believed to be patentable over the asserted combination of references.

Claims 16-31

These claims have been canceled without prejudice or disclaimer, and Applicants expressly reserve the right to pursue protection for the invention recited in these claims.

New Claims 32-33

With respect to new claim 32, as discussed above with reference to amended claim 1, the art of record does not teach or suggest the claimed intervention flags and their use to identify members needing proactive care, nor does the art of record teach the analysis of healthcare data comprising data associated with a plurality of disease categories. Therefore, claim 32 is believed to be patentable over the art of record.

With respect to new claim 33, in addition to the features of claim 32 discussed above, claim 33 also recites the use of a predicted future healthcare utilization for each of the plurality of members is based on the stored healthcare data for each of the plurality of members to identify

high-risk members. The predicted future healthcare utilization is based upon healthcare data comprising data associated with a plurality of disease categories. As discussed above with reference to amended claim 1, these features are not taught or suggested by the art of record. Therefore, claim 33 is believed to be patentable over the art of record.

Conclusion

This response should be entered pursuant to 37 C.F.R. §116 because it presents the rejected claims in better form for consideration on appeal.

This application now stands in allowable form and reconsideration and allowance is respectfully requested.

Respectfully submitted,

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